

REMARKS

In this Response, Applicant traverses the Examiner's rejections. Applicant respectfully requests that the rejections be reconsidered in light of the following Remarks.

Applicant's silence with regard to the Examiner's rejections of dependent claims constitutes a recognition by the Applicant that the rejections are moot based on Applicant's Remarks relative to the independent claim from which the dependent claims depend. Applicant reserves the option to further prosecute the same or similar claims in the present or a subsequent application. Claims 1, 2 and 4-25 are pending in the present application.

Claim Rejection - 35 U.S.C. § 112, first paragraph

The Examiner rejected claims 1 and 3-25 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Applicant notes that the Examiner erroneously included cancelled claim 3 in the rejection and omitted claim 2. To move prosecution forward, Applicant bases the following Remarks on claims 1, 2 and 4-25, as pending in the Application. The Examiner contends that the first and second conductors, as recited in the claims, form an approximation to a transmission line with respect to each other and that a signal applied to one of the conductors will also drive the second conductor. The Examiner concludes that, without some undisclosed measures, it is not possible to drive one of the conductors without driving the other. While Applicant is aware that two parallel conductors form an approximation to a transmission line, Applicant respectfully disagrees that applying a signal to one conductor also drives the second conductor and so traverses the rejection.

It is well known in the art that, through capacitive and inductive coupling, a current in a first conductor of a two-conductor transmission line induces a current in the second conductor. However, those of skill in the art also recognize that an applied current drives the conductor to which it is applied and that an induced current is distinct from an applied current.

Applicant's claim 1 recognizes this distinction in reciting that "a first electromagnetic signal will induce a second electromagnetic signal along the second conductive element", where "a transmitter [is] operable to drive the first electromagnetic signal along the first conductive element." This is distinct from the transmitter also driving

or applying a signal to the second transmitter. The language of claim 1 is seen to be consistent with capacitive and inductive coupling as used in the art. Applicant suggests that the Examiner's interpretation of claim 1 confuses the well known concepts of applied current and induced current. Thus, Applicant respectfully requests that the rejection under 35 U.S.C. § 112, first paragraph, be withdrawn and that references to driving a first conductor without also driving a second conductor be given their full weight in examining the claims.

Claim Rejection - 35 U.S.C. § 102(b)

The Examiner rejected claims 1, 2, 4-9 and 12-20 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,137,282 to Macke, Sr. et al. Applicant notes that the Examiner erroneously omitted claims 22 and 24 in the introduction to the rejection. Applicant bases the response herein on the specific rejections of the claims, which include claims 22 and 24, but do not include cancelled claim 3, and traverses the specific rejections.

In anticipation of the withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, as requested above, Applicant repeats the remarks in Applicant's response filed March 4, 2005. Applicant's claim 1 recites, among other things, a transmitter operable to drive the first electromagnetic signal along the first conductive element without also driving the second conductive element. Macke, Sr. et al. discloses that electrical pulses are transmitted down cables 304 and 306, respectively, from a pulse source that is part of the TDR electronic components 302 ; see col. 4 line 66 to col. 5 line 16. Thus, Macke, Sr. et al. discloses that when the TDR electronic components 302 drive an electrical pulse along its first conductive element, cable 304, the components 302 also drive its second conductive element, cable 306. This differs from a transmitter operable to drive the first electromagnetic signal along the first conductive element without also driving the second conductive element, as required by Applicant's independent claim 1. Thus, Macke, Sr. et al. does not anticipate Applicant's independent claim 1.

Applicant's independent claims 16 and 25 contain elements similar to those of Applicant's independent claim 1. Therefore, for the reasons given above, Applicant's independent claims 16 and 25 are not anticipated by Macke, Sr. et al.

Applicant's dependent claims 2-15, 21 and 22 depend directly or indirectly from independent claim 1; Applicant's dependent claims 17-20, 23 and 24 depend from independent claim 16. Therefore, these dependent claims are also allowable, as they depend from allowable base claims 1 and 16.

Claim Rejection - 35 U.S.C. § 103(a)

The Examiner rejected claims 11, 21, 23 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Macke, Sr. et al. in view of U.S. Patent No. 6,307,380 to Hirai et al. Applicant traverses the rejection. As stated above, claim 25 contains elements similar to those of Applicant's independent claim 1, and is thus allowable. In anticipation of the withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, as requested above, Applicant repeats the remarks in Applicant's response filed March 4, 2005. Dependent claims 11 and 21 depend from independent claim 1 and dependent claim 23 depends from independent claim 16. In the rejection over Macke, Sr. et al., the Examiner repeats verbatim the rejections of claims 1 and 16 under 35 U.S.C. § 102(b). As discussed above, Macke, Sr. et al. does not disclose, and thus does not teach or suggest, all the elements of Applicant's independent claims 1, 16 and 25. Further, Hirai et al. also do not teach or suggest a transmitter operable to drive the first electromagnetic signal along the first conductive element without also driving the second conductive element, as required by Applicant's independent claims 1, 16 and 25. The conductor 57 shown in Fig. 20 in Hirai et al. is a single conductor, which is driven by amplifier 1. Thus, because dependent claims 11, 21 and 23 depend from allowable independent claims 1 and 16, claims 11, 21 and 23 are also allowable.

In addition, the Examiner points to the protective layer, or cover 47 in Hirai et al. as allowing sliding of mismatch generator 2. However, claims 11 and 23 recite "supporting material for slidably receiving the coupler in a channel defined therein." The protective cover 47 in Hirai et al. does not include a channel for receiving the coupler. Also, the protective cover 47 in Hirai et al. does not "maintain a consistent displacement between the coupler and the first and second conductive elements," as recited in claims 11 and 23. As seen in Fig. 20 in Hirai et al., a gap exists between the protective cover 47 and float 17. Thus, movement between the mismatch generator 2 on float 17 and conductor 57 can result

in changes in the displacement between the coupler and the conductive elements, or inconsistent displacement. Hirai et al. do not teach or suggest all of the elements of the claims. Thus, the Examiner fails to establish a *prima facie* case of obviousness, as set forth in MPEP § 2143. Thus, in addition to the reasons given above with respect to dependency, claims 11 and 23 are separately patentable over the cited art.

Finality of the Office Action and Remarks Regarding Claim 10

As noted in Applicant's response filed March 4, 2005, the Examiner neither rejected nor objected to dependent claim 10 in the Office Action dated October 4, 2004. The Examiner has also not rejected nor objected to claim 10 in the current Final Office Action. Based on the discussion above, and at least because dependent claim 10 depends from allowable independent claim 1, dependent claim 10 is also allowable. However, in light of Applicant's request to withdraw the rejection under 35 U.S.C. § 112, first paragraph, and in view of the Examiner's failure to address claim 10, Applicant requests that the finality of the Office Action of June 7, 2005 be withdrawn.

CONCLUSION

Applicant believes this Response to be fully responsive to the present Office Action. Thus, based on the foregoing Remarks, Applicant respectfully submits that this application is in condition for allowance. Accordingly, Applicant requests allowance of the application.

Applicant invites the Examiner to contact the Applicant's undersigned Attorney if any issues are deemed to remain prior to allowance.

Respectfully submitted,

Date: August 8, 2005

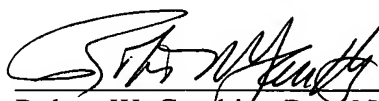
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